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Operations

**PROCEDURES FOR OPERATIONS
INVOLVING NON-IONIZING RADIATION**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction establishes guidelines and procedures to follow when non-ionizing radiation emissions are planned at Vandenberg Air Force Base (AFB) or on the Western Range (WR). This instruction applies to all military and contractor agencies operating equipment which emit non-ionizing radiation (NIR). The source of emissions may be from radar, laser or other type of transmitter. During certain test and operations on the WR there are requirements to emit and control non-ionizing radiation. This instruction delineates and prescribes responsibilities of the 30th Space Wing (30 SW) and its subordinate units for analysis, coordination and the application of procedures to ensure the safety of personnel and equipment. For References, Abbreviations, Acronyms, and Terms, see [Attachment 1](#).

The Paperwork Reduction Act of 1974 as amended in 1996 and AFI 37-160, Volume 8, *The Air Force Publications and Forms Management—Developing and Processing Forms*, affects this publication.

SUMMARY OF REVISIONS

The revision of this publication is to meet the format standards required by the Air Force. No content material has changed. Some required format changes have been made to allow for the conversion process.

1. Responsibilities:

- 1.1. The Commander, 30 SW designate a single manager as the Wing Office of Primary Responsibility (WOPR) and assigns overall responsibility for a program.
- 1.2. The Chief, Safety Office (30 SW/SE) is responsible for analyzing and evaluating all systems and procedures to ensure safety criteria are met.
- 1.3. The Plans and Requirements Office (30 SW/XPR) is responsible for the overall planning of a program in the exploratory/inductory phase.

- 1.4. The Commander, 30th Operations Group (30 OG/CC) is responsible for execution of proscribed procedures for operations on the WR and Vandenberg AFB.
- 1.5. The 30th Aerospace Medical Squadron (30 AMDS/SGPB) is responsible for all radiation safety issues on Vandenberg AFB.
- 1.6. The Commander, 30th Range Squadron (30 RANS/CC) is responsible for documentation and WR Support activities.
- 1.7. The Commander, 30th Civil Engineer Squadron (30 CES/CC) is responsible for guidance and assistance in following the Environmental Impact Analysis Process.
- 1.8. The Missile Operations Support Section (30 SFS/SFOS-M) is responsible for clearing and isolating areas during hazardous NIR emission operations.

2. Program Introduction Procedures:

- 2.1. Programs desiring to use Vandenberg AFB or the WR for test and operations involving NIR shall make contact with the 30 SW/XPR for initial coordination and evaluation. This initial contact should include a program introduction (PI).
- 2.2. The 30 SW/XPR, with the assistance of any other base agency required, shall analyze the program and determine the feasibility of supporting it from Vandenberg AFB and the WR. If this support is possible, 30 SW/XPR will issue a statement of capability (SC).
- 2.3. If the program selects Vandenberg AFB/WR for operations and tests, 30 SW/XPR will coordinate the assistance of required agencies to complete all initial coordination and arrangements. This includes cost estimates, safety analysis, environmental analysis, expected range support and any other requirements.
 - 2.3.1. A safety analysis will be conducted jointly between 30 AMDS/SGPB and 30 SW/SE, in coordination with 30 RANS, to ensure constraints or procedures are within the capabilities of the WR.
 - 2.3.2. When the health, safety, environmental and financial issues are coordinated and initial planning completed, the 30 SW/XPR will coordinate with the 30 OG/CC for transfer of the program.
 - 2.3.3. The Range Operations Support Flight (30 RANS/DOU) shall execute the operations directive (OD) by developing internal procedures and checklists that support the safety analysis and constraints. 30 RANS/DOU, through coordination with the Range Technical Service Contractor (RTSC), shall ensure that these procedures are accomplished.

3. Operational Procedures:

3.1. 30 SW Plans and Programs will:

- 3.1.1. Assign a Wing Planing Manager for all new programs that involve NIR. When necessary, request a WOPR appointment from the 30 OG/CC. The Wing Planing Manager/WOPR will be responsible for performing normal support functions. Specific support shall include, but not be limited to the following:
 - 3.1.1.1. Provide a focal point for overall project management of operations/tests involving

non-ionizing radiation on Vandenberg AFB/WR.

3.1.1.2. Advise affected Vandenberg AFB organizations of programs requiring support as soon as possible.

3.1.1.3. Obtain from the user test objectives, operational requirements and data, which pertain to the program.

3.1.1.4. Ensure the user is aware of required environmental analysis. Assist in the completion of AF Form 813, **Request for Environmental Impact Analysis**.

3.1.1.5. Ensure that the user is aware of the documentation requirements for conducting operations/test on the WR. These requirements are normally satisfied by the Universal Documentation System. (UDS).

3.2. 30 RANS will:

3.2.1. When necessary, assign the Air Space and Off Shore Management Section (30 RANS/DOUN) as WOPR, and a Program Support Manager (PSM) for NIR tests programs.

3.2.2. The Operations Support Flight will:

3.2.2.1. Notify all effected Vandenberg AFB organizations of NIR operations and the required support at the earliest practicable time.

3.2.2.2. Coordinate with the RTSC to provide the clearance and surveillance of land, sea and air areas affected by the Radiation Danger Zone (RDZ).

3.2.2.3. Develop and execute the required documentation to ensure all required base support.

3.2.2.4. Coordinate the test plan with the Space Defense Operations Center (SPADOC), CMOC/J3CS, Cheyenne Mountain AFS CO 80914-6020, to provide predictive avoidance support for NIR emissions into space that are a potential threat to space resident objects.

3.2.2.5. Coordinate with the Aeronautical Operations Control Officer (AOCO), 816 13th Street, Suite C, Vandenberg AFB CA 93437-5233, to ensure:

3.2.2.5.1. The AOCO is the focal point for all direct interface with the user during the operation.

3.2.2.5.2. The RDZ provided by 30 SW/SE is clear during the operation (land, sea and air).

3.2.2.5.3. The AOCO will terminate the operation whenever safety parameters are exceeded or an imminently dangerous situation is observed.

3.3. The Environmental Flight (30 CES/ CEV) will:

3.3.1. Provide guidance and assistance to the range user on environmental requirements and procedures.

3.3.2. Assess the potential environmental impacts of the proposed program.

3.3.3. Determine as early as possible the appropriate level of review necessary, pursuant to the Environmental Impact Analysis Process.

3.4. The Safety Office (30 SWS/SE) will:

- 3.4.1. Determine jointly with the 30 AMDS/SGPB the need for a probabilistic hazard analysis of the NIR emissions program based on the test objectives/operational directives and potential hazards. This analysis is intended to determine how likely the operation will occur within predicted parameters and provide a more definitive probability of risk.
- 3.4.2. Evaluate all systems that are of safety concern against appropriate safety/design requirements to ensure safety of personnel or equipment.
- 3.4.3. Establish safety criteria and operation control plans, including requirements for personnel, equipment protection, evacuation, and surveillance of the RDZ.
- 3.4.4. Ensure the PSM coordinates the operation with the SPADOC to determine the potential hazard to space resident objects.
- 3.4.5. Determine requirements for the closure of any on base/off base land areas, or oil platforms.
- 3.4.6. Determine parameters and identify the airspace and surface hazard area (RDZ), which pose potential danger.
- 3.4.7. Initiate the issuance of the appropriate notices when it is determined that the operation creates a potential hazard to mariners and/or aircraft.
- 3.4.8. Ensure emergency procedures are adequate to respond to an accident involving non-ionizing radiation.
- 3.4.9. Assist the response to emergency requirements based on advisory inputs from other base agencies.
- 3.4.10. Provide personnel to the WR to act as a focal point for all safety coordination during an operation. Have full authority to delay or terminate the operation through the AOCO whenever a dangerous situation is detected.

3.5. The Real Estate Section (30 CES/ CERE) will:

- 3.5.1. Provide 30 RANS/DOUN, 816 13th Street, Suite C, Vandenberg AFB CA 93437-5233, with information concerning leased land tracts affected by the RDZ so that evacuation notices to clear personnel or livestock can be issued.
- 3.5.2. Information required includes:
 - 3.5.2.1. Point of contact, address and lease number for the land tracts affected.
 - 3.5.2.2. Provisions of the lease agreement, which will allow the 30 SW to require clearance.

3.6. The Bioenvironmental Engineering Flight (30 AMDS/SGPB) will:

- 3.6.1. Provide radiological-health support for hazardous NIR operations on Vandenberg AFB and the WR.
- 3.6.2. Identify and evaluate the operational hazards associated with all NIR systems.
- 3.6.3. Determine the need for a probabilistic hazard analysis of the emission program based on the test objectives and known hazards.
- 3.6.4. Determine which control measures are required to ensure safety and minimize any possible hazard.

3.6.5. Assist in identification of acceptable areas for test operations involving hazardous NIR consistent with the test objectives, WR support capabilities, and ability to control hazards.

3.6.6. Issue any approvals required by other regulations to conduct hazardous NIR emission operations (lasers, high energy radars, or other directed energy systems).

3.7. The Missile Operations Support Section (30 SFS/SFOS-M) will:

3.7.1. Provide personnel to ensure areas on Vandenberg AFB that are identified as RDZ are cleared and keep isolated during the hazardous NIR emission operation.

3.7.2. Advise the AOCO when the area cannot be cleared or the status has changed.

EDWARD L. BOLTON, JR., Lt. Col, USAF
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Attachment 1**GLOSSARY OF REFERENCES, ABBREVIATIONS, ACRONYMS, AND TERMS*****References***

AFOSH Standard 48-9, *Health Hazards Control for Laser Radiation*

Eastern and Western Range 127-1, *Range Safety Requirements*

American National Standards Institute, Z136.1, *The National Standard for Safe Use of Lasers*

30 SWI 48-104, *Laser Health Hazard Prevention*

Range Operations Manual Section 5.2, *Hazardous Emissions*

Abbreviations and Acronyms

AOCO—Aeronautical Operations Control Officer

NIR—Non-Ionizing Radiation

OD—Operations Directive

PI—Program Introduction

PSM—Program Support Manager

RDZ—Radiation Danger Zone

RSO—Radiation Safety Officer

RTSC—Range Technical Services Contract

SC—Statement of Capability

SPADOC—Space Defense Operations Center

UDS—Universal Documentation System

WOPR—Wing Office of Primary Responsibility

WR—Western Range

Terms

Hazardous Radiation—The emission of non-ionizing radiation (NIR) at levels that are harmful to personnel or equipment.

Wing Planing Manager—An individual assigned to the Plans and Requirements Office (30 SW/XPR), responsible for the overall planning of a program in the exploratory/introductory phase.

Radiation Danger Zone (RDZ)—Designated area, established/defined by 30 SW/SEY, where the probability of exposure to NIR is greater than that determined to be safe for personnel or equipment.

Wing Officer Of Primary Responsibility (WOPR)—An individual designated by the 30 SW/CC as the single manager having overall responsibility for a program, including direct cost reimbursement. The WOPR is the single point of contact for the 30 SW and the user.

Program Support Manager (PSM)—An individual of the 30 RANS assigned by the Commander, responsible for documentation and WR support activities.

Base Radiation Safety Officer (Base RSO)—Responsible for all radiation safety issues on Vandenberg AFB (30 AMDS/SGPB).